

UCS 1617 – MINI PROJECT

STUDENTS INFORMATION SYSTEM

SOFTWARE REQUIREMENTS SPECIFICATION

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1. INTRODUCTION:

The objective of the Student Information System is to allow the administration of any organization to maintain, edit and update the personal and academic details of a student and allow the student to keep up to date his profile. It'll also facilitate keeping all the records of students, such as their id, name, mailing address, phone number, DOB etc. Marks of the students in each course is also made available and is constantly updated.

The purpose of this document is to analyse and elaborate on the high-level needs and features of the Online Student management System. The details of what all are the needs of the Online Student Information System and if it fulfils these needs are detailed in the use-case and supplementary specifications.

1.1 Purpose

The main purpose of this SRS document is to illustrate the requirements of the project Student information System and is intended to help any organization to maintain and manage its student's personal data.

Requirements Specification defines and describes the operations, interfaces, performance, and quality assurance requirements of the Online Student information System. The document also describes the non - functional requirements such as the user interfaces. It also describes the design constraints that are to be considered when the system is to be designed, and other factors necessary to provide a complete and comprehensive description of the requirements for the

software. The Software Requirements Specification (SRS) captures the complete software requirements for the system, or a portion of the system.

1.2 Scope

The Student Information System is supposed to have the following features :

- System provides login facilities to students and the faculties.
- The system provides the members with the option to check their account and/or change their options like password of the account whenever needed
- Students are allowed to edit some of their personal information like their address, contact number(after requesting the admin), update resume and modify their profile picture.
- Students can view their marks and cumulative grades.
- Student's login activity are registered in a log file after a student logs out.
- Faculties are given options to filter student records by their grades, extra-curricular activities etc.,.
- Faculties can search for a particular student record and modify/update marks of the students belonging to their class only
- Faculty can also post an announcement to a group
- Admin from the exam cell department is given special privilege to view the student information of all departments and can also search/filter specific student records.

- Admin groups the students and the faculties into their respective course-groups.
- The features that are described in this document are used in the future phases of the software development cycle.
- The features described here meet the needs of all the users.
- The success criteria for the system is based in the level up to which the features described in this document are implemented in the system.

1.3 Definitions, Acronyms and Abbreviations

- **Personal details:** Details of student such as username, name, register number, phone number, address, profile picture, resume etc.,.
- **Contact details:** phone number, email-address.
- **Academic details:** Course currently enrolled in, department, year, marks and cumulative grades of all subjects
- **SRS:** System requirement Specification

1.4 Overview

The SRS will provide a detailed description of the Online Student Information System. This document will provide the outline of the requirements, overview of the characteristics and constraints of the system.

- **Section 2:** This section of the SRS will provide the general factors that affect the product and its requirements. It provides the background for those requirements. The items such as product perspective, product function, user characteristics, constraints, assumptions and dependencies and requirements subsets are described in this section.
- **Section 3:** This section of SRS contains all the software requirements mentioned in section 2 in detail sufficient enough to enable designers to design the system to satisfy the requirements and testers to test if the system satisfies those requirements.

2. OVERALL DESCRIPTION:

2.1 Product Perspective

The website Student Information System is aimed towards recording a considerable number of student records and needs online assistance for managing records of students. Website should be user-friendly, 'quick to learn' and reliable website for the above purpose. Student Information System is intended to be a stand-alone product and should not depend on the availability of other website.

2.2 Product Functions

There are two different users who will be using this system.

- Students
- Administrator/Faculty

The features that are available to the student are:

- Registering with details
- Login with credentials
- View their details
- Edit their details

The features that are available to the administrator are:

- Login with credentials
- Search for a student and view their details
- Add a student
- Edit student details
- Remove a student

User characteristics

The users of the system- Students, faculties and the administrators who maintain the system are assumed to have basic knowledge of the computers and Internet browsing. The administrators of the system to have more knowledge of the internals of the system. The proper user interface, users manual, online help and the guide to install and maintain the system must be sufficient to educate the users on how to use the system without any problems

Constraints :

- The information of all the students must be stored in a database that is accessible by the Student Information system.
- The university information security system must be compatible with the Internet applications.
- The users access the Student Information system from any computer that has Internet browsing capabilities and an Internet connection.
- The users must have their correct usernames and passwords to enter into the Student Information System.

Assumptions and dependencies:

- The users have sufficient knowledge of computers.

- The University computer should have Internet connection and Internet server capabilities.
- The users know the English language, as the user interface will be provided in English
- The product can access the university student database

3. SPECIFIC REQUIRMENTS:

This section describes in detail all the functional requirements.

3.1 Functionality

- The Administrator will be given more powers (enable/disable/update) than
- other users.
- It will be ensured that the information entered is of the correct format. For
- example name cannot contain numbers. In case if incorrect form of
- information is added, the user will be alerted to fill the information again.
- The system can be accessed anytime
- The Student information System is also supported on mobile devices such as cell phones.

3.2 Usability

- The system shall allow the users to access the system from the Internet using HTML or it's derivative technologies. The system uses a web browser as an interface.
- Since all users are familiar with the general usage of browsers, no specific training is required.
- The system is user friendly and self-explanatory

3.3 Reliability

We are going to develop a secured database. There are different categories of users namely Administrator, Student and faculty who will be viewing either all or some specific information from the database.

Depending upon the category of user, the access rights are decided:

- If the user is an administrator, they can view the whole database and grant permission to the students to edit particular information in the database.
- If the user is a student, they can view/retrieve their academic and personal information; update profile pictures and resume and edit some personal data like contact number and address.

3.3.1 Availability

The system is available 100% for the user and is used 24 hrs a day and 365 days a year. The system shall be operational 24 hours a day and 7 days a week

3.3.2 Mean Time Between Failures (MTBF)

The system will be developed in such a way that it may fail once in a year.

3.3.3 Mean Time to Repair (MTTR)

Even if the system fails, the system will be recovered back up within an hour or less.

3.3.4 Accuracy

The accuracy of the system is limited by the accuracy of the speed at which the employees of the library and users of the library use the system.

3.3.5 Maximum Bugs or Defect Rate

Not specified.

3.3.6 Access Reliability

The system shall provide 100% access reliability

3.4 Performance:

3.4.1 Response Time

The information is refreshed every two minutes. The access time for a mobile device should be less than a minute. The system shall respond to the member in not less than two seconds from the time of the request submittal. The system shall be allowed to take more time when doing large processing jobs.

3.4.2 Administrator Response

The system shall take as less time as possible to provide service to the administrator.

3.4.3 Throughput

The number of transactions is directly dependent on the number of users, the users may be the administrator, faculty who is updating marks or students who are checking or updating their profiles.

3.4.4 Capacity

The system is capable of handling 200 students at a time.

3.4.5 Resource Utilization

The resources are modified according to the user requirements and also according to the information updated.

3.5 Supportability:

3.5.1 Internet Protocols

The system shall be comply with the TCP/IP protocol standards and shall be designed accordingly.

3.5.2 Information Security Requirement

The system shall support information security requirements and use the same standard as the college information security requirements.

3.5.3 Maintenance

The maintenance of the system shall be done as per the maintenance contract.

3.5.4 Standards

The coding standards and naming conventions will be as per the American standards.

3.6 Design Constraints:

3.6.1 Software Language Used

The languages that shall be used for coding the Online student information System are Active Server Pages (ASP), Java Servlets, Java Server Pages (JSP), HTML and JavaScript. For working on the coding phase of the Online Student Information System, the Internet Information Services (IIS) Server needs to be installed.

3.6.2 Development Tools

Make use of the available Java Development Tool kits for working with Java Beans and Java Server Pages. Also make use of the online references available for developing programs in ASP, HTML and the scripting language JavaScript.

3.6.3 Class Libraries

Make use of the existing Java libraries available for JSP and Servlets. Also we need to develop some new libraries for the web-based application. Also develop new programs using ASP and scripting languages.

3.7 On-line User Documentation and Help System Requirements:

Online help is provided for each of the feature available with the Online Student Information System. All the applications provide an on-line help system to assist the user. The nature of these systems is unique to application development as they combine aspects of programming (hyperlinks, etc) with aspects of technical writing (organization, presentation). Online help is provided for each and every feature provided by the system. The User Manual describes the use of the system to Student ,administrator and faculty. It describes the use of the system on mobile systems. The user manual should be

available as online help. A Read Me file is typically included as a standard component.

3.8 Purchased Components:

The System Administrator will need to purchase the license for IIS Server. Mostly it is available with Windows Environment. So the system need not purchase any licensing products.

3.9 Interfaces:

3.9.1 User Interfaces

Will make use of the existing Web Browsers such as Microsoft Internet Explorer or Netscape. The user-interface of the system shall be designed as shown in the user-interface prototypes.

3.9.2 Hardware Interfaces

The existing Local Area Network (LAN) will be used for collecting data from the users and also for updating the Student Catalogue.

3.9.3 Software Interfaces

A firewall will be used with the server to prevent unauthorized access to the system.

3.9.4 Communications Interfaces

The Online Student Information System will be connected to the World Wide Web.

3.10 Licensing Requirements

The usage is restricted to only SSN Institutions who is purchasing the Online Student Information System from SIS and signs the maintenance contract.

3.11 Legal, Copyright, and Other Notices

Online Student Information System is a trademark of SRS and cannot be used without its consent.

3.12 Applicable Standards

The ISO/IEC 6592 guidelines for the documentation of computer based application systems will be followed